

# Weekly Report

## 1 Done

### 1.1 MOOC Courses

I made drafts of 4 subsections.

### 1.2 Paper Reading

- Real-Time Data Processing Architecture for Multi-Robots Based on Differential Federated Learning
- Human Activity Recognition Using Federated Learning

In this week, I tried to find something to visualize from studies about federated learning. What I found are listed as follows:

- 1) The overlap among datasets from different data owners. Where do they overlap, data records or attributes? How much usable data are they provided respectively?
- 2) Time per iteration of each sub-model.
- 3) The changes of parameters submitted to the third-party from each sub-model.
- 4) Test accuracy of each sub-model used to evaluate its contribution and verify if there is a need to remove it from the federal.
- 5) Metrics to evaluate the entire model, such as the value of the objective function of the minimization, often called loss value or cost value.

## 2 To Do

- Improve the MOOC slides as suggestions.
- Find available datasets for federated learning.